

REMARKS

This is in response to the Office Action that was mailed on June 29, 2005. The recitations of claims 3 and 11 are incorporated into claims 1 and 9, respectively, and accordingly, claims 3 and 11 are cancelled, without prejudice. Claim 9 is further amended in view of disclosure appearing in lines 12-21 on page 35 of the specification. No new matter is entered. Claims 1, 2, 4-10, and 12-15 are pending in the application.

The rejection over JP 05-066600

Claims 1-15 were rejected under 35 U.S.C. §102(b) as being anticipated by JP 05-066600. The rejection is respectfully traversed.

It is noted that JP 05-066600 is discussed on pages 6-7 of Applicants' specification. *The analysis which follows is based upon a machine translation of JP 05-066600.* JP 05-066600 (JP '600) discloses a capsule mold toner with which the endocyst of the coloring agent was carried out to anion mold self-water-dispersion resin (claim 1).

Regarding the process of producing a toner, JP '600 also discloses as follows (claim 2): "The manufacture approach of the capsule mold toner characterized by to consist of the first process which makes the mixed constituent containing anion mold self-water-dispersion resin and a coloring agent distribute, the second process which make the particle encapsulated in the water medium by carrying out phase-inversion emulsification of said distributed constituent generate, and the third process which separate the capsule particle which generated in said water medium out of a water medium, and make dry."

Moreover, JP '600 discloses, regarding the anion mold self-water-dispersion resin, as follows (claim 4): "The above mentioned anion mold self-water-dispersion resin acid radical content polymerization nature monomers it is the copolymer obtained using one sort of compounds. it is chosen out of the group which consists of acid radical content polymerization nature oligomer, polymerization nature monomers which do not contain an acid radical, and polymerization nature oligomer which do not contain an acid radical ... And the capsule mold toner according to claim 1 which is what has the 20-500mg [per 100g] acid radical of resin solid content."

Regarding a reaction solvent for polymerization of the resin, JP '600 also discloses as follows: "Various kinds of aromatic hydrocarbon [like / toluene, a xylene, or benzene]; a methanol, various kinds of alcohols [like / ethanol, propanol, or a butanol]; like cellosolve or carbitol various kinds of ether alcohol; like an acetone, a methyl ethyl ketone, or methyl isobutyl ketone various kinds of ketones; they are the so-called inactive solvents, such as various kinds of ether ester like various kinds of ester; like ethyl acetate or butyl acetate, or butyl-cellosolve acetate"(paragraph [0047]), "Preferably, in the third process of ... mentioned later, use of the so-called low boiler of the acetone by which desolventization may be carried out easily, a methyl ethyl ketone, or ethyl acetate is appropriate" (paragraph [0048]). Moreover, in the Examples, methyl ethyl ketone or n-butanol is used (Referential examples 1-3).

Regarding the dispersion of the coloring agent, JP '600 discloses as follows: "It is possible for the micro-disperse of the coloring agent to be easily carried out into resin on the other hand using the conventional distributed technique according to this invention Furthermore, since the second process can attain particle-izing and capsulation in an instant, with

this condition maintained, distribution of the coloring agent in a particle has the description of being accomplished by homogeneity” (paragraphs [0064] and [0065]), and “In this case, resin is adsorbed and a coloring agent is incorporated inside a particle” (paragraph [0068]).

JP ‘600 discloses regarding the third step: “The third process obtains a powder-like dry capsule particle except for an organic solvent or a water medium. ...the capsule mold toner particle obtained at the second process -- water -- and -- an organic solvent -- since it is distributing in a medium, vacuum distillation removes an organic solvent first. This organic solvent has the desirable thing of a low-boiling point from the place distilled off easily” (paragraphs [0079] and [0080]).

JP ‘600 discloses as the effect of the invention as follows (paragraph [0119]): “According to this invention, the capsule mold toner particle which does not contain a distributed stabilizer and which the coloring agent distributed in the particle to homogeneity can be obtained in the easy process which is not in the former. Particle size is easily controlled in the amount of the base which neutralizes an acid radical substantially. Moreover, since particle size distribution use the physicochemical phenomenon of phase inversion emulsification of resin, what makes normal distribution is obtained.”

ARGUMENT. JP ‘600 fails to disclose or suggest crosslinking or curing a resin having an acid group or a salt constituting the microcapsule wall. The disclosure of JP ‘600 includes no concept of crosslinking or curing the resin wall. JP ‘600 is directed to a capsule toner. Thus, the present invention is different from, and would never be predicted from, the reference.

Moreover, the present invention shows unexpected results. That is, since JP ‘600 produces microcapsules by using an anionic resin, it may be easy to obtain capsules containing a

coloring agent by controlling the particle size. However, the strength of the microcapsule wall is insufficient and a microcapsule stable for a long period in a form of encapsulating a coloring agent together with an oil phase dispersing the coloring agent would never be obtained by the method of JP '600.

In contrast, in accordance with the present invention, since the resin of the capsule wall is crosslinked or cured, the strength of the microcapsule is significantly improved. Also, such a wall keeps the dispersion state of the capsule contents and the capsule itself stable for a long period of time, without dissolving the resin into the oil phase and without a leak of the oil phase. Such a result is not predictable from the disclosure of JP '600.

Applicants respectfully submit that claims 1, 2, 4-10, and 12-15 in their present form are neither anticipated by nor obvious from JP 05-066600.

The rejection over JP 11-202372

Claims 1-15 were rejected under 35 U.S.C. §102(b) as being anticipated by JP 11-202372. The rejection is respectfully traversed.

It is noted that JP 11-202372 is discussed on pages 2-3 of Applicants' specification. The analysis which follows is based upon a machine translation of JP 11-202372.

JP-11-202372 (JP '372) discloses that "within the dispersed system which encloses the charged particle which moves inter electrode to impression of electric field in a dispersion medium by changing the distribution condition of said charged particle under an operation of the electrical potential difference for control in the display device to which give change to an optical reflection property and made it make a necessary display action carry out it is the display device

which said dispersed system consists of at least two or more kinds of charged particles by which endocyst was carried out to the microcapsule, and a dispersion medium containing a surface active agent, and is characterized by said charged particle containing at least one side among titanium oxide and carbon black” (claim 1).

Regarding the surface active agent (surfactant) JP ‘372 discloses that in the liquid dispersion medium 14, in order to make the distributed condition of a charged particle 12 good, the surfactant is contained (paragraph [0041]).

JP ‘372 discloses as an example of the formation ingredient of the above-mentioned outer wall section, gelatin, gum arabic, starch, sodium alginate, polyvinyl alcohol, polyethylene, a polyamide, polyester, polyurethane, polyurea, polyurethane, polystyrene, a nitrocellulose, ethyl cellulose, methyl cellulose, a melamine/formaldehyde resins, ureas/formaldehyde resins, these copolymerization objects, etc. are mentioned, for example (paragraph [0047]). In the Examples, a melamine/formaldehyde resin is used as the wall material.

According to JP ‘372, the following are disclosed in regard to the production of the microcapsule in the Examples (paragraphs [0064]-[0067]): “In the case of the white coloring agent, the coloring agent shown in examples 1-8 and example of comparison 1 table 1 manufactured many the white charged particles and black charged particles whose mean particle diameter which in the case of the black coloring agent was distributed and was fixed by polyamide resin in polystyrene resin, respectively is about 7 micrometers. Next, the charged particle manufactured by the above-mentioned approach was added into 100 cc of 1:1 water solutions of the aliphatic hydrocarbon solvent of 5% polystyrene sulfonate which is an emulsifier which are a sodium salt water solution and a liquid dispersion medium a part, with the

homogenizer, ... it stirred for 5 minutes and the emulsion which the liquid dispersion medium which contains a white charged particle and a black charged particle in a water solution distributed to homogeneity was obtained. ... melamine/formaldehyde prepolymer was added to the above-mentioned emulsion, and it held for 5 hours in the condition of having heated so that water temperature might become 80 degrees C, ... it adjusted to pH 7 after that, and cooled to ordinary temperature. Consequently, the wall material which becomes the surroundings of the liquid dispersion medium containing a white charged particle and a black charged particle from a melamine/formaldehyde resins deposited, and the microcapsule which connotes a charged particle was obtained.”

Regarding the effects of the invention, JP ‘372 discloses as follows (paragraphs [0073][0074]): “by changing the impression condition of an electrical potential difference, change can be given for the optical reflection property using this display device of a display, and, moreover, a low battery is enough as the applied voltage at this time. Moreover,... a reflection factor and a contrast ratio are high and can form a legible image etc. Moreover, after image formation, even if it intercepts control by electric field, it is possible to hold an image in the condition as it is, and it has a memory”.

ARGUMENT. JP ‘372 fails to disclose or suggest crosslinking or curing a resin having an acid group or a salt constituting the microcapsule wall. In particular, JP ‘372 contains no concept of crosslinking or curing the resin wall. This is apparent from the fact that JP ‘372 exemplifies polyamide and polyester at the same level as a non-crosslinkable resin such as polyethylene. Thus, the present invention is different from and would never be predicted from the reference.

Furthermore, the present invention shows unexpected results. That is, since JP '372 provides no concept of crosslinking the resin wall, a dispersion state of the electrified particle would never be kept stable for a long period of time in JP '372.

In contrast, according to the present invention, since the resin of the capsule wall is crosslinked or cured, strength of the microcapsule can be improved. Moreover, such a wall keeps the dispersion state of the capsule contents and the capsule itself stable for a long period of time, without dissolving the resin into the oil phase and without a leak of the oil phase. Such a result is not predictable from the cited reference.

Applicants respectfully submit that claims 1, 2, 4-10, and 12-15 in their present form are neither anticipated by nor obvious from JP 11-202372.

Conclusion

If any questions arise regarding the above matters, please contact Applicant's representative, Richard Gallagher (Reg. No. 28,781), in the Washington Metropolitan Area at the phone number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to our Deposit Account No. 02-2448 for

Application No.: 10/800,866

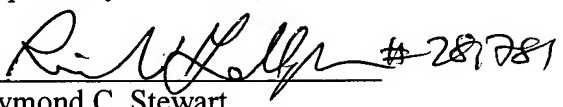
Docket No.: 2224-0228P

any additional fees required under 37 C.F.R. § 1.16 or under § 1.17; particularly, extension of time fees.

Dated: July 5, 2005

Respectfully submitted,

By

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